Community Advocates in Public Housing

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Successful community health advocate programs recruit and train local residents to act as advocates for community members regarding health and other social issues. Advocates are effective in improving the accessibility and quality of health care services, empowering communities to effect change, and increasing collaboration between community members and health care providers in identifying and resolving problems.[1–4]

The Highland Park advocate program in Milwaukee was developed to address critical health and quality-of-life concerns in a public housing community. The program provided leadership training to selected residents to strengthen the skills necessary to effect change in their community.[5] The advocates have developed culturally appropriate programs to address the many concerns of the housing residents.

THE HIGHLAND PARK PROGRAM

The Center for Healthy Communities in the Department of Family and Community Medicine at the Medical College of Wisconsin is dedicated to forming community–academic partnerships to improve health. In 1998, the center collaborated with the Housing Authority of the City of Milwaukee and SET (Service, Empowerment, Transformation) Ministry, Inc, a community-based organization that provides case management services in public housing to develop a community advocate program.

The Highland Park Resident Organization had received a Tenant Opportunity Program grant in 1997 through the US Department of Housing and Urban Development to develop a core group of leaders and to address aging, employment, mental health, and alcohol and other drug abuse. After discussing whether and how to integrate the programs, the partners jointly developed the program's structure, goals, selection criteria, and training content. Following their selection, the advocates participated fully in continuing program development.

The partners developed the program according to the partnership principles developed by Community–Campus Partnerships for Health[6]: (1) trust, respect, and genuineness; (2) shared mission and goals; (3) open communication; (4) respect for community knowledge; (5) focus on strengths and assets; (6) shared resources; (7) flexibility, compromise, and feedback; (8) attainable, measurable objectives; (9) commitment by all partners; and (10) shared credit.

OUTCOME

The advocates reported that the training was adequate and useful for the program. More residents are participating in building activities such as the annual health fair and monthly potlucks, yet there is a continued need for more health promotion programs. Funding from the Medical College of Wisconsin Cancer Center and from an anonymous donor has covered staff time and advocate stipends.

LESSONS LEARNED

The Highland Park community health advocate program would not have been as successful without the key participation of SET Ministry, housing residents, and the Housing Authority of the City of Milwaukee. It was extremely important to commit the time required to develop trust and credibility with the community. Adhering to partnership principles such as communication, respect, and sharing credit facilitated this process. It was also critical for the program to address community-identified and prioritized issues (Table 1). It was important to define health very broadly and to address nonphysiologic health issues such as concerns about safety, literacy, economics, and housing that may be more urgent. Continued funding received from the Department of Housing and Urban Development will allow the community health advocate program to expand to other housing developments in Milwaukee. ■

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Contributors

M. Wolff and S. Young planned, developed, and implemented the community advocate program and wrote the paper. C.A. Maurana supervised the planning, development, and implementation of the program and contributed to the paper.

TABLE 1—Projects of Highland Park Community Advocate Program

Tenant safety patrol
Developed in response to safety concerns in the building.
Patrol members received 10 hours of training.
Advocates work in teams of 2 for regularly scheduled shifts.
Program has had a significant impact on security in the building.
General equivalency diploma preparation program
Program meets weekly and provides material and informal tutoring.
Volunteer teacher from the community assists the advocates with the program.
Health committee
Addresses residents' health concerns as well as misconceptions and myths about disease.
Organizes and sponsors an annual health fair.
Conducted a health assessment survey.
Organizes presentations on diabetes, cancer, smoking, healthy lifestyle habits, etc.
Spirituality meetings
Program meets 3 times a week for prayer, readings, and singing.
Local minister participates in the program.
Social activities
Strengthen community cohesiveness and social networks.
Activities include a monthly potluck dinner, morning coffee club, weekly discussion group, weekly movie time, special events such as Black history celebrations.

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Blood Lead Levels in Relation to Paint and Dust Lead Levels: The Lead-Safe Cambridge Program

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In the United States, 42 million dwellings contain lead paint and 1.8 million children live in homes with deteriorating lead paint. Fifty-two percent of all residential housing units have lead paint at concentrations of 0.7 mg/cm^2 or higher.[1] These community exposures to lead may cause adverse effects in children, such as alterations in heme synthesis and neuropsychological deficits resulting in decreased IQ, behavioral changes, and impaired school performance.[2]

The goal of this pilot study was to use data from a federally sponsored lead-based-paint hazard control program to compare the correlation of various measures of paint lead and dust lead with elevated blood lead levels among children living in homes built before the 1940s, after controlling for demographic factors.

METHODS

Study Population and Data Collection

All children were from families who volunteered to participate in the Lead-Safe Cambridge Program. This residential lead hazard control program is administered by the City of Cambridge (Massachusetts) Community Development Department in partnership with the Cambridge Hospital; it receives funding from the US Department of Housing and Urban Development (HUD).

Lead Sampling Protocol and Analysis

Leaded paint inspection and sampling[3] was performed in accordance with the Massachusetts Lead Law on interior painted components, common areas in multifamily units, and exterior painted components. Interior dust samples were collected from the floors, interior windowsills, and window wells. Sample preparation and collection were performed by the method of Vostal et al.[4] The dust wipe method used in the present study measures lead loading as micrograms of lead per unit of surface area,[3] a measure that is better than dust lead concentrations (i.e., micrograms of lead per gram of dust)[5] for predicting children's blood lead levels. All dust samples were analyzed according to Environmental Protection Agency SW-846 Method 7420 for flame atomic absorption spectrophotometry. Blood lead screening[6] was conducted in participants' homes by appointment, and blood samples were collected by finger-stick by a registered nurse from Lead-Safe Cambridge. Blood lead samples were sent to the State Laboratory Institute (participants in the Wisconsin and New York lead proficiency testing programs) at the Massachusetts Department of Public Health for lead analysis by graphite furnace atomic absorption spectrophotometry (Perkin-Elmer, Boston, Mass). Typical accuracy and precision (relative standard deviation [%]) values for the blood lead measurements in quality control analyses were ±1 µg/dL and 2% to 3%, respectively.

Data analysis in this cross-sectional study focused on blood lead as a dependent variable, with age, tenure status (owner occupied or rental), sex, race/ethnicity, and environmental lead values as independent variables. A multivariate linear regression model was constructed, beginning with a model including all the potential predictors and proceeding by backward elimination with a cutoff of $P<.05$.

RESULTS

The children (59 subjects from 44 homes) were aged 6 months to 6 years (mean age=2.7 years) and living in housing built before the 1940s. Of the 59 children, 50 (85%) were from families who rented their homes, 24 (41%) were White, and 30 (51%) were girls.

The mean blood lead level in the children (n=59) was 9.74 µg/dL. Thirty percent of the children (n=18) had blood lead levels greater than the Centers for Disease Control and Prevention standard of 10 µg/dL. Paint and dust samples had high mean lead levels, with many values exceeding health-based standards. Mean paint lead levels (mg/cm^2) were 5.04, 5.77, and 7.03 for interior, common, and exterior areas, respectively. Mean dust lead levels (µg/ft^2) were 183.14, 221.85, and 11 670.9 for floors, windowsills, and window wells, respectively.

In the final multivariate regression model of blood lead that began with age, race/ethnicity, sex, tenure status, and all the environmental variables, the variables that remained after backward elimination ($P<.05$) were interior window trough dust lead and lower age (Table 1). The total R^2 of the model was 0.39 (n=20).

TABLE 1—Regression Coefficients for Variables That Remained After Backward Elimination in a Multiple Linear Regression (n = 20) Predicting Blood Lead (µg/dL) (Log Transformed)

Independent Variable	Regression Coefficient	SE	*P*
Window trough dust lead	0.2385	0.0776	.007
Age	–0.318	0.1368	.033

DISCUSSION

This study found interior dust lead and lower age to be the strongest predictors of blood lead in children. Regardless of a building's condition, window wells are reservoirs for lead dust, with concentrations that are typically several orders of magnitude higher than those in other locations.[7,8] Blood lead levels among children typically rise until the age of 18 to 27 months, plateau, and then decline as the mouthing of foreign objects decreases.[2,9–11] The roles of leaded dust in window wells and of mouthing behaviors in children aged 18 to 27 months[12,13] present a compelling case for addressing windows as a primary prevention measure.

This pilot study has several limitations. First, the sample population screened for the study was small, and it consisted of an urban population of predominantly African American and Hispanic children living in deteriorating older housing. Hence, the results may not be generalizable to other groups. Second, we did not include soil lead or nutritional and other factors that could act as potential confounders. Despite these limitations, however, this pilot study reveals the importance of more complete abatement of lead dust on window units and more effective cleanup to remove lead-bearing dust, particularly in homes where younger children live. In addition, the study demonstrates the feasibility of performing research with data from abatement projects supported by HUD. ■

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Contributors

V. Potula planned the study, analyzed the data, and wrote the paper. M. Hegarty-Steck directed the Lead-Safe Cambridge Program, which examined all participants and conducted the sample analysis. H. Hu supervised the design and data analysis and contributed to the writing of the paper.

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